

## WHAT IS CLAIMED IS:

1. An isolated nucleic acid segment comprising at least a first isolated coding region that encodes a first peptide of between 18 and about 24 amino acids in length that comprises an amino acid sequence that is at least about 88% identical to the amino acid sequence of SEQ ID NO:2.

2. The nucleic acid segment of claim 1, wherein said at least a first isolated coding region encodes a first peptide that comprises an amino acid sequence that is at least about 94% identical to the amino acid sequence of SEQ ID NO:2.

3. The nucleic acid segment of claim 2, wherein said at least a first isolated coding region encodes a first peptide comprising the amino acid sequence of SEQ ID NO:2.

4. The nucleic acid segment of claim 3, wherein said at least a first isolated coding region encodes a first peptide that has the amino acid sequence of SEQ ID NO:2.

5. The nucleic acid segment of claim 3, wherein said at least a first isolated coding region comprises the nucleotide sequence of SEQ ID NO:1.

6. The nucleic acid segment of claim 5, wherein said at least a first isolated coding region has the nucleotide sequence of SEQ ID NO:1.

7. The nucleic acid segment of claim 1, wherein said at least a first isolated coding region is positioned under the control of a promoter.

8. The nucleic acid segment of claim 1, wherein said nucleic acid segment further comprises at least a second isolated coding region that encodes a second protein, polypeptide or peptide.

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9. The nucleic acid segment of claim 8, wherein said at least a first isolated coding region is operatively attached, in frame, to said at least a second isolated coding region and wherein said nucleic acid segment encodes a fusion protein in which said first peptide is linked to said second protein, polypeptide or peptide.

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10. The nucleic acid segment of claim 8, wherein said at least a second isolated coding region encodes a second, distinct *Coccidioides spp.* protein, polypeptide or peptide.

11. The nucleic acid segment of claim 10, wherein said at least a second isolated coding region encodes a second, distinct polypeptide or peptide sequence from SEQ ID NO:4.

12. The nucleic acid segment of claim 8, wherein said at least a second isolated coding region encodes an adjuvant protein, polypeptide or peptide.

13. The nucleic acid segment of claim 1, further defined as a recombinant vector.

14. The nucleic acid segment of claim 1, comprised within a recombinant host cell.

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15. The nucleic acid segment of claim 1, comprised within a pharmaceutically acceptable carrier or diluent.

16. A recombinant vector that comprises at least a first isolated nucleic acid segment in accordance with claim 1.

17. A recombinant host cell that comprises at least a first isolated nucleic acid segment in accordance with claim 1.

18. The recombinant host cell of claim 17, wherein said host cell further comprises at least a second isolated coding region that encodes a second, distinct *Coccidioides spp.* protein, polypeptide or peptide.

19. The recombinant host cell of claim 17, wherein said host cell is a prokaryotic host cell.

20. The recombinant host cell of claim 17, wherein said host cell is a yeast host cell or a mammalian host cell.

21. A composition comprising at least a first isolated nucleic acid segment in accordance with claim 1.

22. The composition of claim 21, wherein said composition further comprises at least second isolated coding region that encodes a second, distinct *Coccidioides spp.* protein, polypeptide or peptide.

23. The composition of claim 21, wherein said composition comprises a pharmaceutically acceptable carrier or diluent.

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24. The composition of claim 21, wherein said composition further comprises at least a first adjuvant.

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25. A vaccine formulation comprising, in a pharmaceutically acceptable form, an immunologically effective amount of at least a first isolated nucleic acid segment in accordance with claim 1.

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26. A method for generating an immune response, comprising providing to an animal an immunologically effective amount of at least a first isolated nucleic acid segment in accordance with claim 1.

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27. The method of claim 26, wherein said animal has, is suspected of having or is at risk for developing coccidioidomycosis.

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28. The method of claim 26, wherein said animal is a human subject.

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29. A method for treating or preventing coccidioidomycosis, comprising administering to an animal having, suspected of having or at risk for developing coccidioidomycosis a therapeutically or prophylactically effective amount of at least a first isolated nucleic acid segment in accordance with claim 1.

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30. An isolated peptide of between 18 and about 24 amino acids in length that comprises an amino acid sequence that is at least about 88% identical to the amino acid sequence of SEQ ID NO:2.

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31. A composition comprising at least a first isolated peptide in accordance with claim 30.

32. A method for generating an immune response, comprising providing to an animal an immunologically effective amount of at least a first isolated peptide in accordance with claim 30.